CONTENTS

NUMBER 1

R. Oltra and M. Keddam	1	Application of impedance technique to localized corrosion
L. S. Nandeesh and B. S. Sheshadri	19	The anisotropic nature of copper corrosion and inhibition in sulphuric acid containing strychnine
D. P. Schweinsberg, G. A. George, A. K. Nanayakkara and D. A. Steinert	33	The protective action of epoxy resins and curing agents — inhibitive effects on the aqueous acid corrosion of iron and steel
J. S. L. Leach and B. R. Pearson	43	Crystallization in anodic oxide films
R. J. Brigham	57	The thermodynamics of crevice corrosion initiation
M. Cid, M. Puiggali, H. Fatmaoui and M. C. Petit	61	A comparison of the depassivation of stainless steels by mechanical and electrochemical techniques
F. Zucchi, G. Trabanelli and G. Demertzis	69	The intergranular stress corrosion cracking of a sensitized AISI 304 in NaF and NaCl solutions
H. E. H. Bird, B. R. Pearson and P. A. Brook	81	The breakdown of passive films on iron
R. Youda, H. Nishihara and K. Aramaki	87	A SERS study on inhibition mechanisms of benzotriazole and its derivatives for copper corrosion in sulphate solutions
T. Y. Chen and Z. Szklarska-Smialowska	97	The pitting corrosion characteristics of boride-strengthened nickel- and iron-based microcrystalline alloys
A. T. Cole, R. C. Newman and K. Sieradzki	109	A comparison and evaluation of 'bare surface' electrochemical techniques for the investigation of stress corrosion cracking in alpha brass
	119	Corrosion Diary

NUMBER 2

M. R. G. de Chialvo, M. F. L. de Mele, R. C. Salvarezza and A. J. Arvia	121	The influence of sodium bromide in the corrosion and passivity of copper in borate buffer
R. Qvarfort	135	New electrochemical cell for pitting corrosion testing
S. R. de Sanchez and D. J. Schiffrin	141	The use of high speed rotating disc electrodes for the study of erosion–corrosion of copper base alloys in sea water
S. M. Sayed and H. A. El Shayeb	153	The measurement of pitting corrosion currents of steel in neutral aqueous solutions
F. H. Al-Hajjar and F. M. Al-Kharafi	163	2-amino-thiazole and 2-amino-4,6-dimethyl-pyrimidine as corrosion inhibitors for copper
W. Kautek	173	The galvanic corrosion of steel coatings: aluminum in comparison to cadmium and zinc
M. Shirkhanzadeh	201	A rotating disc electrode with internal facilities for the measurement of hydrogen permeation under controlled hydrodynamic conditions
Short Communications		
G. S. Duffo and J. R. Galvele	207	S.C.C. of silver alloys due to surface mobility
B. MacDougall	211	Comments/discussion on the passivation of nickel in aqueous solutions
	217	Announcements
	219	Corrosion Diary

NUMBER 3

A. KUCH	221	Investigations of the reduction and re-oxidation kinetics of iron (III) oxide scales formed in waters
R. M. CARRANZA and J. R. GALVELE	233	Repassivation kinetics in stress corrosion cracking—I. Type AISI 304 stainless steel in chloride solutions
H. J. KRAUTSCHICK, H. J. GRABKE and W. DIEKMANN	251	The effect of phosphorus on the mechanism of intergranular stress corrosion cracking of mild steels in nitrate solutions
R. N. PARKINS, Y. LIU and J. CONGLETON	259	Effects of dynamic straining in an artificial crack on the stress corrosion of a NCMV steel in 10 M NaOH
R. E. HUMMEL and R. J. SMITH	279	The passivation of nickel in aqueous solutions—III. The passivation of Ni–30 wt% Cu alloys as studied by *in situ* electrochemical and optical techniques
G. P. MARSH and K. J. TAYLOR	289	An assessment of carbon steel containers for radioactive waste disposal
	321	Announcements
	325	Corrosion Diary

NUMBER 4

P. PELED, S. HARUSH and D. ITZHAK	327	The effect of Ni addition on the corrosion behaviour of sintered stainless steel in H_2SO_4
N. J. CORY, T. M. HERRINGTON and L. TOMLINSON	333	Hydrogen emission during the steam oxidation of ferritic steels: experimental technique
T. SUZUKI, H. NISHIHARA and K. ARAMAKI	343	A study on the oxidative-addition reaction of benzyl compounds in sulphuric acid and its relation to corrosion inhibition
C. C. CORKE and M. D. ARCHER	353	The electrochemical corrosion of an $Fe_{74}Cr_6P_{13}C_7$ metallic glass produced by Vacuumschmelze GmbH
F. BELLUCCI, G. CAPOBIANCO, G. FAITA, C. A. FARINA, G. FARNIA, F. MAZZA and S. TORCHIO	371	The behaviour of iron and low alloy steels in anhydrous organic solvents—methanolic solutions
V. K. SINGH and V. B. SINGH	385	The corrosion behaviour of AISI 304 stainless steel in methanol—H_2SO_4 mixtures
F. B. GROWCOCK and V. R. LOPP	397	The inhibition of steel corrosion in hydrochloric acid with 3-phenyl-2-propyn-1-ol
R. C. ALKIRE and K. P. WONG	411	The corrosion of single pits on stainless steel in acidic chloride solution
Short Communication		
K. V. QUANG, P. LE GUEVEL, N. JALLERAT and J. C. BAVAY	423	Fast method for determination of critical pitting temperature
	425	Announcements
	427	Corrigendum
	429	Corrosion Diary

NUMBER 5

R. PARKINS	431	Obituary: Francis L. LaQue
H. MASUDA, S. MATSUOKA, S. NISHIJIMA and M. SHIMODARIA	433	The role of corrosion in fatigue crack propagation for structural alloys in 3% NaCl solution
K. AIREY, R. D. ARMSTRONG and T. HANDYSIDE	449	The use of molybdates combined with etidronic acid as corrosion inhibitors for iron
F. FONDEUR, T. A. MOZHL and B. E. WILDE	461	The effect of palladium on hydrogen absorption and mobility in AISI 4130 steels
R. C. NEWMAN, M. A. A. AJJAWI, H. EZUBER and S. TURGOOSE	471	An experimental confirmation of the pitting potential model of Galvele
S. E. LOTT and R. C. ALKIRE	479	The variation of solution composition during the initiation of crevice corrosion on stainless steel
A. G. MACDONALD and F. H. STOTT	485	The corrosive wear of cast iron in oil–sulphuric acid mixtures
P. NARAYANAN KUTTY and R. D. ANGAL	503	Isothermal sulphidation of sintered nickel–base alloys in sulphur dioxide
A. MAZANEK and H. BALA	513	The corrosion of iron in 0.5–8 M hydrochloric acid solutions
Short Communication		
R. C. NEWMAN, F. T. MENG and K. SIERADZKI	523	Validation of a percolation model for passivation of Fe–Cr alloys—I. Current efficiency in the incompletely passivated state
	529	Announcements
	533	Corrosion Diary

NUMBER 6

J. SCULLY	535	Obituary: Mars G. Fontana
D. P. SCHWEINSBERG and V. ASHWORTH	539	The inhibition of the corrosion of pure iron in 0.5 M sulphuric acid by *n*-alkyl quaternary ammonium iodides
H. S. ISAACS	547	The measurement of the galvanic corrosion of soldered copper using the scanning vibrating electrode technique
E. MCCAFFERTY, M. K. BERNETT and J. S. MURDAY	559	An XPS study of passive film formation on iron in chromate solutions
G. D. WILCOX, D. R. GABE and M. E. WARWICK	577	The development of passivation coatings by cathodic reduction in sodium molybdate solutions
P. MARCUS and I. OLEFJORD	589	A Round Robin on combined electrochemical and AES/ESCA characterization of the passive films on Fe–Cr and Fe–Cr–Mo alloys
S. M. SHARLAND and P. W. TASKER	603	A mathematical model of crevice and pitting corrosion—I. The physical model
S. M. SHARLAND	621	A mathematical model of crevice and pitting corrosion—II. The mathematical solution
Short Communication		
H. LEIDHEISER, JR, R. D. GRANATA, G. FEY and M. INGLE	631	Factors affecting the pH developed within carbon steel crevices
Book Review		
J. SCULLY	633	Corrosion and electrochemical behaviour of metals in non-aqueous solutions
	635	Announcement
	637	Corrosion Diary

NUMBER 7

J. C. SCULLY	639	Birthday greetings to our Publisher
E. OTERO, A. PARDO, C. MERINO and M. LAGUNA	641	Corrosion resistance of Fe–8 wt% Cu sintered products in Na_2SO_4
S. FANGTENG and E. A. CHARLES	649	A theoretical approach to galvanic corrosion, allowing for cathode dissolution
B. S. SKERRY, J. B. JOHNSON and G. C. WOOD	657	Corrosion in smoke, hydrocarbon and SO_2 polluted atmospheres—I. General behaviour of iron
B. S. SKERRY, J. C. WOOD, J. B. JOHNSON and G. C. WOOD	697	Corrosion in smoke, hydrocarbon and SO_2 polluted atmospheres—II. Mechanistic implications for iron from surface analytical and allied techniques
B. S. SKERRY, J. B. JOHNSON and G. C. WOOD	721	Corrosion in smoke, hydrocarbon and SO_2 polluted atmospheres—III. The general behaviour of zinc
Book Review		
R. C. NEWMAN	741	Corrosion for Students of Science and Engineering. By K. R. Trethewey and J. Chamberlain
	743	Corrosion Diary

NUMBER 8

K.-J. EICHHORN and W. FORKER	745	The properties of oxide and water films formed during the atmospheric exposure of iron and low alloy steels
W. BATISTA, A. M. T. LOUVISSE, O. R. MATTOS and L. SATHLER	759	The electrochemical behaviour of INCOLOY 800 and AISI 304 steel in solutions that are similar to those within occluded corrosion cells
C. P. DE PAULI, M. C. GIORDANO, B. A. LÓPEZ and M. E. MANZUR	769	The passivation of zinc in slightly acidic buffered solutions in the presence of phosphate ions
W. KOZLOWSKI and J. FLIS	787	An ellipsometric study of anodic films formed on iron–phosphorus alloys in borate solution
A. M. RILEY, J. M. SYKES and A. HAMNETT	799	The cathodic reduction of passive films on low-alloy steel in carbonate solutions
E. EBTEHAJ, D. HARDIE and R. N. PARKINS	811	The influence of chloride–chromate solution composition on the stress corrosion cracking of a Mg–Al alloy
Short Communication		
D. M. DRAŽIĆ and V. VAŠČIĆ	831	*In situ* electrochemical measurements during the salt chamber test
	835	Announcements
	837	Corrosion Diary

NUMBER 9

S. H. Choi and J. Stringer	839	The calcium sulfate-induced corrosion of iron–chromium alloys
R. M. Carranza and J. R. Galvele	851	Repassivation kinetics in stress corrosion cracking — II. α-Brass in non-ammoniacal solutions
J. Gawel and A. Wyczesany	867	Equilibrium gas compositions for the SO_2-O_2 system and their application to the sulfidation of copper
R. C. Newman, T. Shahrabi and K. Sieradzki	873	Direct electrochemical measurement of dezincification including the effect of alloyed arsenic
M. F. Maday, A. Mignone and M. Vittori	887	The application of the electrochemical potentiokinetic reactivation method for detecting sensitization in Inconel 600. The influence of some testing parameters
C. P. Hunt	901	The effect of impurities on the intergranular stress corrosion cracking of a C/Mn steel
G. M. Murray, G. K. Schweitzer and F. K. Heacker	923	Corrosion system modelling using microcomputer programs for free-energy minimization
Short Communications		
H. Shih and F. Mansfeld	933	Concerning the use of the Kramers–Kronig transforms for the validation of impedance data
F. Mansfeld and R. Vijayakumar	939	Atmospheric corrosion behavior in Southern California
Book Review		
J. C. Scully	947	Corrosion Atlas
	949	Announcement
	951	Corrosion Diary

NUMBER 10

J. C. Dobson, F. R. McLarnon and E. J. Cairns	953	The corrosion of some metals in sulfur-polysulfide melts
B. Baroux	969	The kinetics of pit generation on stainless steels
I. Sekine, Y. Nakahata and H. Tanabe	987	The corrosion inhibition of mild steel by ascorbic and folic acids
G. S. Duffó, I. A. Maier and J. R. Galvele	1003	The influence of temperature on the susceptibility of type AISI 304 stainless steel to transgranular and intergranular stress corrosion cracking in LiCl solutions
P. Peled and D. Itzhak	1019	The effect of noble alloying elements Ag, Pt and Au on the corrosion behavior of sintered stainless steel in an H_2SO_4 environment
A. Turnbull, M. Saenz de Santa Maria and N. D. Thomas	1029	Steady-state electrochemical kinetics of structural steel in simulated fatigue crack-tip environments
	1039	Corrosion Diary

NUMBER 11

S. DAUMAS, Y. MASSIANI and J. CROUSIER	1041	Microbiological battery induced by sulphate-reducing bacteria
C. J. NEWTON and J. M. SYKES	1051	A galvanostatic pulse technique for investigation of steel corrosion in concrete
M. K. LOUDJANI, J. C. PIVIN, A. M. HUNTZ and J. H. DAVIDSON	1075	High temperature corrosion of Fe–Ni–Cr, Fe–Cr–Al and Fe–Ni–Cr–Al alloys in controlled $H_2/H_2O/CH_4$ atmospheres
R. B. REBAK, R. M. CARRANZA and J. R. GALVELE	1089	The stress corrosion cracking mechanism of α-brass in $NaNO_2$ solutions
M. DANIELEWSKI, S. MROWEC and H. J. GRABKE	1107	The relationship between transport properties and growth rates of scales with complex defect structures
	1125	Corrosion Diary

NUMBER 12

D. A. HARDWICK, A. W. THOMPSON and I. M. BERNSTEIN	1127	The effect of copper content and heat treatment on the hydrogen embrittlement of 7050-type alloys
P. SOUTHWORTH, A. HAMNETT, A. M. RILEY and J. M. SYKES	1139	An ellipsometric and RRDE study of iron passivation and depassivation in carbonate buffer
A. SANFELD, M. HENNENBERG, G. BERTRAND and J. C. CANNOT	1163	Mechanical constraints induced by solutal elasticity during oxidation of metals. A new approach for a metal–oxygen interstitial solution
R. D. ARMSTRONG and S. ZHOU	1177	The corrosion inhibition of iron by silicate related materials
R. C. NEWMAN and A. MEHTA	1183	An AC impedance study of the de-alloying of Fe–Ni alloys, and its relevance to chloride SCC of stainless steels
E. STUPNIŠEK-LISAC, K. BERKOVIĆ-SALAJSTER and J. VORKAPIĆ-FURAČ	1189	An investigation of the efficiency of several organic descaling inhibitors
	1203	Announcements
	1205	Corrosion Diary
	i	List of Contents and Author Index